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Your request

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Request an intellectual property (IP) licence to use a trademark belonging to the Met or Mayor's Office for Policing and Crime (MOPAC) for any purpose

Details of your enquiry

ATLATIC INTERNATIONAL UNIVERSITY

1. Circulum design format offline.
-Name : tshingombe Tshitadi

-course title| course objectives|| course description||| activity to carry out ||| ID source of date ||||
bibliography.

-

course title course objectives course description activity to carry out ID source of ibliography

1- Proposal of thesis content / final project

Content

- 1 .name of thesis
- 2.index
3. Introduction.
- 4.description .
- 5.general.analizing
- 6.current information .
- 7.discussion
- 8 conclusion.
9. Bibliography.

1.Name of thesis : implementation and framework national qualification and national trade examination curriculum experimental job theoretical practical college and government policy LMS in engineering studies science electrical businesses module: case studies rsa in dheth,saqa , St peace college

2. Index: topic achieve research advance field basic field , essential filling research curriculum, foundation intermediate,elementaire

3.Introduction : the core and research advanced field experience of sciences engineering electrical study and implement programme in social education and industrial trade vocational career productu sector in energy electrical and science engineering field system need to learn and re implement system information management system sector opportunity and through activities investment horizontal creation of equitable distribution: transformer science engineering and electrical product method learn capacity generative intelligence systems of linear regression models machine learning model for specific results reported that they haveA Mon other aspirations lsreal parameter real power factor and limageer power factor ,, need to resolved system exper and artificial intelligence system rural development system residential dispatch deployment system and framework qualification mean regulation humain resource and material work trade design career center to make system LMS factor adaptation between robot science trade elementary work trainer training phase products and systems industrial generator entrepreneurs in same order phase assessment news field and compensation.problem ask rural development need new training order framework to qualicafition requested requalification redesign equivalents system , occupation framework system between national framework qualifications instituts and national trading sector licensed theory and practical in nature and creative abilities, -typical evry country or landscape will be in a constant state of design system in ,,,, Large measure unpredictable and this city or village at different paint of time ,, implementation the Grove years of failed turound ..

4.desceiption :at the heart of solutions to framework qualicafition and national trade implementation sub sector training trainer experiemental work place industrial more student and instituts college trade years external internal work value increase price macro economics instability Crete ,,sice accentuated by advertising shortage high inflation levek rising unemployment capacity industrial trademarks society system and materials adequately support trade training QMS system information commissioner,to under utilities in the address desteriorous policy design implementation ,

5. General analysis: in order to break the successful it has become social contract principle in

-6 current information:

In working to formatted a trade framework qualification and national framework and career skill sector trade seta in same system in order to resolve problem impact real to dispatch electrical system real ,work trade design

For the turnaround ,the following

- objective.

- the diagnosis the fundamental strategies instituts framework qualification national equivalent national trade international sector approval occupation council trade council engineering sector portal career design to synchronise system adaptative sector LMS learner engineering competition grade post senior principal, engineering electrical ,tradesman wire ,cadet minim system up date successful system in design grade operational, framework award qualification research undertake material test week conductor atom technical engineering innovation learn teach research mark method marks need to implement adaptative system , research topics curriculum regulation irregularity material script, backlog system , combination system ,printer and system need to make synchronise system deploy generative job framework undercover job in next generation must going

- to discern and isolate the socio economic environment engineering system trade safety security police , commissioner trade need to meet requirements qualification framework and the framework must also show in the social successful but framework it increases by outage loadshedding and social down to declined empirical experimental in other contemporary ,the regret filled job no successful for time table printer system or computers system experimental make design advanced research ,

-7. discussion the objective is to explore that strategies and situation where Rapide performance import. Trade theory..

- conclusion:

Whilst the field of strategy has be explored extensively in vast to trade framework qualifications need to requalification system was temporarily qualify expire system in job work sector training and regulations system industrial system need cpd to continue system and subject short and gate more skill job was slow operational field basic in basic was poorly no attendance system advance essential field job make support frame commissioner no meeting system trade retrade was not in the same ways Orders orientation industrial, imperative hard, largely ,the research interest and how a fruit full common,ground can be established.

- one of the critical virtues of the proposal thesis that it Engineering electrical science make in order to stabilize thought transfer the vei ld consensus building in ,,

- the thesis is ,, model design

Policy commissioner vs learn vs teacher vs ,, framework national trade vs company property intellectual business electrical system need to meeting...wrong model design topic ,, research rural energy design framework , and orientation system learner teach career mentor faciltor purpose framework,leaver school need to meeting,

Design two g city design systeme economic revenue bank system portal need sector trade to work in place electrical designer b Poste trade case research job workplace resulted was recruited need printer pool position rank no waiting

- 8 bibliography:

- tshingombe 2023_2024 < Poe's published,,educ technology, magazine net database, St peace college.
- Record book completed
- web TVET dhet ,saqa wab
- alu

Graduation procedure form . congratulations programme , diploma .

- 1 data verification.
- grade | description| point | numeracy

2

-2. Basic questionnaire exam test
Class

AIU .

- Academic evaluation questionnaire , videoconference:
- A.I.U|education|| domination|||emphasis|||| specifications|||| professional.

3.curriculum course ,
Assessment

-3.1.title of the subject :

engineering electrical master

-3 2 terminanal objective of the course :

Engineering electrical master basic advance field studies assignment to able capable to define to design creativity fundamental system master low skills and knowledge value compete with each section shall be responsible for delivering the best regards in electrostatic electrodynamics electromagnetic and value of power systems.

- 3.3..brief description : the course electrical power system use or business in trade theory practical system to master system value more stability of movement quantum mechanics transformation of electrostatic dynamic low stability,relativity of charge celerity basic and advance in trade theory electrical low Commissioning and approval: low change rules change phenomenon fundamental by stress of movement rupture breaking electrical system synchronise system asynchronous linearization system,in trade theory electrical and industrial electronics basic advance power

3.4.synopsis of content: the stability design projection system trade marketing board information system electrokinematic dynamic physical state engineering science introduction used to trade theory electrical ,manufacture process inventory low stamp system low stable loadshedding week manufacture industrial technology linearization system.

-3.5 activities of course :

Activity engineering electrical electrical experiemental subject completed log Engineering studies work 3dimension multidisciplinary approach logic of this claim: information management system in education and learn trade facilitation

Discussion log : completed theory practical physic experiemental panel trade ,, experiemental input and output system

Activity: manipulation: test electrostatic

Conductivity expansion linearization system ,dynamic system test insulation conductivity low rules , derivatives limited integrally sum resulted test system evaluation framework.

Critical source

3.5 .source of data :

Experiemental topics St peace college tshingombe ,web PG

3.6 bibliography:

Tshingombe .

4.Assignment :

Title page: engineering electrical master

Electrostatic electrokinematic electrodynamics electromagnetic, stability power systems ,,,process control ,,in trade theory practical manufacture process. Inventory claim

- index :

- page :

Cover the ,7 basic

Question course

Wath means

- diagrams: scheme correlative matrices and comparative matrices :

Answer:

- deepening of the subject : engineering electrical master low phenomenology studies vibration system.

- practical example and cases .: engineering electrical cases study city power schneider Eskom. Loadshedding power and industrial dtic trade career hr

- justification:

- level experience :

- how the treated subject is seen at the local regional

-advantage and disadvantages,.

Poor efficiency and poor distribution of system ,, in trade close tendered system

Big system most important consumers system in trade increase coat award ..

No master number real system imaging

5. Topics.

Table of contents:

5.1: Introduction purpose of topics

Definition rationale:

5.2 description:

Components of the topics

5.3.general analyse :

- 5.4. actualization : case study.

5.5 . discussion:

5.6 general recommendation .

5.7 : suggestions.

Conclusion news perspective

- 6 topics in electrical engineering, MS, MSEE..

- topic 6.1: digital telephonic

Introduction purpose of definition

- topic 6.2: space control system.

- topic 6.3 . advanced telecommunication.

-topic 6.4: wireless telecommunications systems.

- topic 6.5: neural networks.

-topic 6.6: computation and biologic

-topic 6.7: knowledge base system in electrical.

- topic 6.8: principle of internetworking.

- topics 6.9: optical fibre ,

- topics 6.10: signal detection and estimation theory .

- topics 6.11: digital control system.

Topics 6.12 microprocess system .

- topics 6.13 introduction to stochastic process : movement aleatoir , signal redresseur asservissa
systeme bande étroite , signal note .

-topic 6.14 optical and ultrasound , tomographique , supersound

Propagation linear celerity movement incidence ..

Topic : 6.15 industrial power systems process ,,

Signal input output functions power

Topics : 6.16 . signal detection and estimation theory digital images reconstruction and medical
image

- topic 6.17, process integration

- topics 6.18. parallel computer architecture .

Topic.6.19. architecture computer

-

Topic 6.20 . power systems control stability.

Topic 6.21: electromagnetic

Topic 6.22 mathematics , statistic probability,, calculus ,, binary

Physic ,..

Orientation course.

- topics 6.22. communication , investigation comprehensive

- topics 6.23.. organization's theory Portfolio

-topics 6.24. experimental learning , autobiography.

- topic 6.25 , academic questions evaluation evaluation .

- topic , 6.25 fundamental of knowledge integration.

- topics fundamental principles philosophy education.

- professional evaluation development evaluation

- development of graduation study

Master skill development long

approfondis kinematics system phase transition phase education system specialist personal care
education facilities,, phenomenon city

Topic

. Topics.

Table of contents:

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5.5 . discussion:

5.6 general recommendation .

5.7 : suggestions.

Conclusion news perspective

3 of 976

1.thesis research in electrical engineering.

-*1.1.overview : conducting thesis research in electrical engineering typically involves identifying a specific problem or area of interest within the field conducting.

Experiemental,or simulation and analysing risk.

***1.2. Key topic: possible research area could include power systems control system.**

Telecommunication, or embedded systems your thesis contribute new knowledge or solution to existing challenge in the electrical and electronics.

*1.3. trade theory in electrical electronics.

*1.4: overview this involves understanding principle and electronics relate to electrical and electronics system installation, maintenance and safety.

*1.4. topics : you might study electrical code circuit design ,and troubleshooting technique this knowledge is essential for ensuring safety safe and efficient electrical installation in various..

*1.5 . advantage and disadvantage trade theory in electrical engineering.

* Innovation and development trade theory encourage competition which can lead to innovation and development of new technologies In countries to specialise in the production of certain electrical good leading to more efficient use of resources.

- economic growth: engagement in international trade can boost economic growth by expanding market for electrical.

- knowledge transfer : trade can facilitate the exchange of knowledge transfer trade can facilitate the exchange of knowledge and technology between countries, enhance the overall capabilities..

- disadvantages:

1.6. dependency: countries may become overly dependent on imported electrical good which can be risky if supply chain are disrupted .

-1.7.. trade theory in electrical engineering.

* Overview trade theory in electrical engineering often refer to the principles and practices related to the electrical trade : including , installation maintenance and , safety standards.

-irregularity in material design THR's could refer to issue related to the consistency and ,quality of material used in electrical .

- application , understanding how to identify and address irregularity in material is crucial for ensuring safety and performance in electrical

1.8. backlog issues:

- *overview: in the context of engineering and project management backlog issue refer to delay or outstanding task that need to be addressed occurred in various stage of a project from design to implementation ,

-1.9. key considerations: addressing backlog issues, often involves analyzing task ,and efficiently this is crucial for maintenance project to timeline and ensuring successful.

-key topics : electrical : calculation understanding how to perform calculation related electrical . System, including load calculation voltage. Drop and circuit design.

- Power supply system : learning about different types of power supply system , including ,AC and DC system transformers and distribution.

-2. Interested in Educational technology can impact the outcomes of manufacturing topics in electrical engineering Engineering.

2.1 simulation software: tools like MATLAB and Simulink allow students to model and simulation electrical ,system ,students to model and simulate electrical , system helping them understand complex concepts without the need for physical prototype.

* Online learning platform these platforms provide access to a wealth of resources including video lecture interactive quizzes and forum for discussion making easier for student to learn at their .

* Collaborative tools : technologie like cloud based . collaboration platform allow students to work together projects and instructor enhance system tailor Education content to the individual need of students helping them grasp difficult concept ,in manufacturing and electrical engineering more.

- *industry partnership: collaboration with industry can provide students with real world project and case studies bridging the gap between theoretical knowledge and practical application in manufacture.

- lab workshop electrical engineering .

1.circuit design and analysis ,student design and analyse various electrical circuits using bread board, simulation software.

2. microcontroller programming: workshop include programming microcontroller, (like Arduino or Raspberry control device and sensor).
3. Power system: experimental, may involve studying power generation transmission and distribution including renewable energy source.
4. Control system, student learning about feedback systems and control theory through practical application and simulation.
5. Electronics prototyping: workshop may focus on building prototype of electronic devices, allowing students to apply their knowledge in real-world scenario.
6. Testing and measurement student learn to use various testing equipment such as oscilloscope and multimeter, to measure electrical parameter.
- telecommunication, workshop may cover topics like signal processing and communication system in

3. Workshop lab: aspect of trade in electrical engineering trade theory often involves the practical application of theoretical concept in a workshop settings.

- *1. Fundamentals of electrical theory, understanding Ohm's law, Kirchhoff's law and other foundation principle that govern electrical circuit.
- *2. Hands-on circuit assembly, student typically engage assembling and testing various electrical circuits applying theoretical knowledge to practical scenario.
- 3. Troubleshooting technique, workshop often include exercise diagnosis and fixing uses in electrical system, which is crucial.
- 4. Safety practice: emphasising safety protocol when working with electrical components and systems is vital part of any workshop.
- 5. Use of tools and equipment familiarisation with tools such as multimeter, oscilloscope and soldering equipment, which are essential for electrical engineering task.
- 6. Project based learning, student may work on specific project that requires them to apply traditional theory concepts such as designing a simple electrical device or system.
- 7. Collaboration and teamwork, encourage
 - information on workshop lab that cover trademarks panel wiring electrical switch one way and two way relay motor.
 - panel wiring: basic of panel wiring learning how to wire electrical panel including understanding circuit diagrams and layout planning.
 - * One-way switches hands-on practice with one-way switch which control a light or device from a single location.
 - * Two way switch work with two way switch that allows control of a light or device from two different hallways or large room.
 - * Relay motor, AC and DC motor understanding the difference between AC (DC), motor their application and characteristics relay operational, learning how relay work, their in controlling motor and other device, students may practice wiring relay to control, AC and DC motors,
 - practical application: hands-on project that involves wiring circuit with one way and two way switch integrating.

6. Lab: workshop,

1. Industrial electronics.

* Overview of industrial systems:

Understanding the component and systems used industrial electronics including sensor, actuator and control systems.

. installation practices: learning best practices for installation electronics system in industrial settings, including wiring, mounting and configuration.

2. *Computer installation: hardware setup hands on experience with installing computer hardware

company including motherboard, power supplies and peripheral.

- * **Software installation:** understand the process of installing operating system and necessary software for computer system.
- * **Safety rules :** electrical safety emphasising the importance of safety protocol when working electrical system.
 - including proper use of personal protective , equipment ,(PPE) and safety handling of tools .
- * **Compliance with standard , learning about industrial.**
- * **4 . fault finding technique , troubleshooting teach systeme Pproach** diagnosing the use of flowchart.fault in electronics system including the use of flowchart and checklist ,use of diagnostic tools familiarisation with tools such as multimeter oscilloscope and tester to identify and analyse fault.
 - 1* **high voltage safety , safety protocol.emphasising the importance of safety when working with high voltage system** including the used of personal protective equipment PPE and understanding hazard.
- * **Emergency procedures , training response procedure incase of electrical accidents or equipment failure.**
- * **Power generation :** type of power generation exploration various methods of power generation includ thermal hydroelectric ,wind and solar power .
- * **Generation , equipment hand on experience with generator, transformer and other equipment used in power generation.**
- 3. Transmission :** line design understanding the design operation of high voltage transmission line . including factor affecting.
 - efficiency and reliability.
- Substation operation learning,about the role of substation in the transmission system , including switching,protection .**
- 4. Engineering trademarks, standards and certification , familiarisation with industry standard and trademarks related to high voltage equipment and systems , IEEE, IEX, ANSI,,**
- Quality assurance:** understanding the importance to ensure safety reliability and performance in power systems.

Manufacturing process of electrical components.

1. Design and prototyping.

- **concept development engineer design the electrical components consideration functionality material and specifications.**
- **prototyping: is created to test the design and functionality before mass production.**

2.*material selection choosing material select material: selecting appropriate material based on electrical thermal ,and mechanical properties common material including metal , plastered and ceramic ..

3* fabrication , machining : cutting drilling and shppings material to create the component parts ,

*** Molding :** for plastic components , injection molding often used to create complex shapes.

4* assembly : components assembly : parts are assembled together ,which may include soldering welding or using adhesive components like resistor capacitor and microcontroller into the assembly.

5.motoring electrical vehicles.

***5.1 overview:** this area focus on the design development and operations of electric vehicle (EVS) and their components . including electric motor , batteries and chargers system.

- ***5.2. key topic :** you might explore electric motor design battery technology power electronics and vehicle dynamics understanding the integration of renewable energy source and renewable energy.

-***5.3 . substation: overview , substation are design protection system design protection system, controle and maintenance practice , understanding the role substy in smart grid technology and**

renewable energy integration, is .

*** 5.4 . Nanotechnology:**

***5.5 overview:** involved manipulating matter at the nanoscale billion of meter to create material and devices with unique properties field has application across various industries electronics medicine and in the context of electrical engineering study nanoscale component as transistor sensor and energy storage devices nanotechnology enhance ,perfy .

5.6 cellular components :

5.6.1 overview this refer to the study of t structure and function of cells structures on function cell which are the basic application in biotechnology and cellular signak memoire brand dynamic and role of protein and nuclei acids.

5.6.1 azure and machine learning Microsoft Azure is a cloud computing platform that provides a wide range of services including machine learning data storage and development to buit deployment and application machine development to build deployment and application machine python use task such as analysing medical .

***5.6.2. Assess moderator :**

*** Overview** is responsible for overseeing and ensuring the quality and fairness of assessment in Education settings this role often involves evaluation effectiveness .

*** Key topics:** focus on asssestment evaluation effect.

***Key topic :** focus an assessment evaluation criteria and best practices for ensuring reliability and validity in testing.

*** 5.6.3. Education,didactic :**

*** overview :** didactic in the science of teaching and learning it involved understanding how to effectively learning experience.

*** Key topics:** study instruction design curriculum development and teaching strategies ,styles .

5.6.4. psychopedagogy ,

***Overview:** this field combines psychology to understand how psychological principle can be applied to Education practice ..

.5.6.5.: role is some who guide and supporter ,a group or individual in achieving their goals often in Educational or professional setting this role involves creating learning collaboration.

***Key skill :** effective commy ,active listening conflict resolution and the ability to faster engagement skill for a facilitation .

***5.6.6 Personality care in montesory:**

-overview: education setting per .

- care focuses on nurturing the individual child's development including their emotional.

*** Key principles:** Montessori educy emphasising respect for the child fastening independent and creating a supportive environment that encourages exploration a supportive environment that exploration and self directed learning personality care involves understanding each childs..

***6.1 Marine Engineering overview** marine engineering focused construction and maintenance of ships boats and other marine vessel combined with electrical engineering it involves the electrical system that power and control .- key topics : in this field marine propulsion system electrical power generation and t ontrok system for navigation and automation engineering.

- key topics in this field marine propulsion system electrical power navigation and automation engineering.

- key topics: in this field you might study field you study marine propulsion electrical power generation and distribution control system for navigation and automation and safety systems marine systems marine electrical engineering ensure that the electrical system on vessel are efficient reliable and compliant with maritime.

- 6.2. labour machinery low.

* **Overview :** this area focuses on the legal regulation standards governing the use of machinery in the workplace safety ,labour rights and operational standards.

* **Key topics:** you might study occupation safety.regulation machine standard and compliance understanding low is crucial for ensuring , environment.and protecting workers .

***6.3. Bargaining:**

***Overview bargaining** typically refers to the negotiations process between employer workings conditions wage and other.

- **key topics :** you might explore collective bargaining agreement negotiation strategies and labour relations under.dynamic of bargaining is essential for mastering positive workplace.

* **How to make a self assessment ,exam creating a self , assessment exam can help you evaluation your understanding of biophysics engineering concept.**

1. **Identify key topics,** list the main topics concept you want to assess for biophysics engineering area like biomechanics medical.

2.**create questions :** development variety of questions types multiple choice provide several optt for each question true false simple statement that the responsibility must .

- identify as true or false.

*

-**6.4 marking topics for electrical assignment exam Portofilio.**

- **preparing your Portofolio for an electronical assignment exam .**

1.**select relevant topics :** choose topics that Lign with the course objectives and your interest the could area like circuit design power systems control power or renewable energy.

- **organisation :** your work structure your Portofolio logically you might include section for.

* **Introduction :**

***Of the topics cover.**

* **Projection:** detailed description of project you completed including objective methods.

* **Assignment:** including key assignment that demonstrates your understanding of the material..

7.1 .Sorting and counting learning about the mechanism that allowed these machines to sort and count bank note efficiently involves understanding the sensor and algorithm used to detect different denomination and conditions of note ,new worn or damages.

-**quality controle exploring how bank note processing machine ensure that only acceptable note are circulate, removal of counterfeit or damaged not are circulate removal of counterfeit on damaged notes from.**

- **integration with banking system gaining knowledge integrate with bank systeme for invatory management cash flow analysis and reporting.**

- **maintenance and trout , understanding maintenance requirements and common issue that can arise .**

- **with banknoy processing machine ,.**

'''

- **7.2 chemical engineering engineering and science are distinct yet interconnected field with engineering that focuses chemical engineering.**

***Overview:** this field involve the design optimization and operations of process that convert row material into valuable product chemical fuels pharmaceutical and dad,

***You might study thermodynamics , reaction engineering ,process design and separation process chemical engineering also focus on safety sustainability environment impose**

7.3. physics engineering:- overview physic t applies principle of physic development new technology and solve engineering problem.often overlap with field like electrical mechanical and materials science.

- **key topic:** explore topics electromagnetic thermodynamics and quantum physics engineering work project involving.

.- **science engineering.**

* **Overview :** is Broder term that can encompasses various engineering disct that apply science principle to solve pratical problt include interdisciplinary approach .

* **Key topics on focus study area science biomedical engineering** often work on research and project requirements a strong foundation.

-7.4.biophysical Engineering is an interdit field that combines principles of physic biolt and enito understand and development technologie related to .

- **biomaterials:** understanding the properties and applications of material used in medical device implants and tissue engineering this include studying how these materials interact with biological.

* **Biomechanics:** learning about the mechanical principle govern biological systems including the movement of organism and the force acting on biology tissue this knowledge is crucey for designing

- **medical imaging** exploring technologie used.

- **biological structure and functt** MRI ,CT and ultrasound ,physic being imagi technique and theirs application in medicine.

- **bioinformatics:** gaining knowledge in the the computational tools and techniques used to analyse biological data including genetic sequence and protein structure this is essential for understanding complex brigicak system ,systeme biology understanding how biological systems functionalite as interaction between genes ,protein metabolism pathways this knowledge can infot the design of targeted therapies and biotechnological application

-7.9. biophysical engineering and total productive maintenance ,tpm are important concepts in the field .

1.biophyscal engineering:

- **overview:** this interdisciplinary field combines principles of biological physics and engineering to develop technologie and process that improve healthcare and bioloy design of medical device biomaterials and bioprocesses .

-**key topics :** you might study area a biomechanics bioinformatics medical imat and tissues engineering physical Engineering work on project that involve the application of physic principle to biologist system ,such as developing prosthesis ..

- 9.10. total productive maintenance (tpm)

* **Overview:** tpm is a maintenance philosophy aimed at maximizing the productivity of equipment by minimising downtime and ensui that machines operate at peak efficiy .it involve all employee in the maintenance process ,from a operator to manai

*- **key topics :** explore concepts such as automouse maintenance ,planned maintenance and continuous improvements ,tpm ,focuses on proactive maintenance strategies including regular inspection preventive maintenance..

* **10. Relavtiivy ,**

* **Overview :** relativity primarily associated with Albert Einstein include the theories of soeciat relativity and general relativity thesis theories revolutionised our understanding of space time ,and gravity .

- **key topics :** in engit you might study the implicai of relativity in field like astrophysics GPS technt and high speed particle physic , understanding relativity is crucial for application involve high velocities or strong gravitational.

- **hydraulic and pneumatic system** uses liquid,while pneumatic uses gases both system are widt used in industrial applications machinery and automation.

- **key topics:** you might study fluid mechanics system design control system and the component.

- 9.1 simulation and modelling gaining in simulating control system to analyse their performance and Optimizer their design .
- 9.1.1.satellite communication understanding the principles of satellite communication system including how satellite transmitted and received signals the different types of satellite geostationary low earth orbit application in broadcasting.
- 9.1.2. fiber optic technology learning about fiber optic communication uses light to transmit data over long distances with minimal loss you study installation.
- 9.1.3.integration of techniques exploring how satellite and fiber optic technologies , exploring how satellite and fiber optic technologies can be integrated to provide comprehensive communication solution such as using satellites for connection in remote areas where .
- 9.1.4. network design and Optimizer communication network utilize both satellite and fiber optic technologies data transmission and connectivity .
- 9.1.5 energy electrical energies ,likely refer various forms of electrical energy their application in .
- *to electrical energy systems . understanding the generator energy includes studying power plants , renewable energy source , like solar ,wind hydro and the electrical .
- 9.1.6 .energy conversion. Learning about the process involves in converting different form of energy mechanical thermal chemical. Into electrical energy and this includes studying devices like generator motor .
- *energy efficiency .exploring method .
- energy efficiency exploring method to improve the efficiency of electrical energy use in various applications including industrial processes.
- * Smart grids gaining knowledge in the device management of smart grid technologies that enhances reliability and efficiency.
- * Network engineering how to design efficient and cable network including local area network LANs wide area network ,Wan's and cloud network,you learn about network topologies protocols ,and architecture.
- *network security , learning about the principles of security studying firewalls ,intrusion detection system and encryption.
- *network management gaining skill in managing and monitoring network performance , including troubleshooting issue optimizing traffic flow and ensuring reliability.
- emerging technologies exploring new trend in network software ,
- definitely networks (SDN) , network functional virtualisation (NFV) and the internet of things .
- *Certification and standards: familiarise yourself with industry standard ,/ certification such .
- certificate network associate ,(CCNA) or competition network which can enhance your career.
- ;electrical trade theory is an essential aspect of electrical engineering and vocational training that focuses on the principles , practice and standard related to electrical work .
- * Fundamentals principle understanding the basic concept of electricity including ohm's law Kirchhoff's law,and other principle of circuits ,voltage current and resistance.
- * Electrical code and standards learning about the regulation and standards that govern electrical installation and safety practices such national electrical code ,(NEC) local building.
- * Installation practices gaining knowledge in the proper technique for installing electrical systems including wiring circuit breakers outlets and lighting fixture while ensuring compliance safety standards.
- * Troubleshooting and maintenance developing skills in diagnosing and repairing electrical issues including understanding common problem and implementing effective solution.
- * Safety practices , emphasising the importance of safety in electrical work practice and understand electrical hazard, instruments measurements and control in electrical engineering is a critical reaction focused on techniques and tools used to measure and control electrical ..
- Measurements techniques technique understand various for measuring electrical quantities such as voltage current resistance power and energy this include multimeter oscilloscope and power analyser .

- control systems . learning about the about the principles of control system, including loops control algorithm and systeme stability to design and implementation control systems to regulate electrical process.
- * Sensors and transducer ,: exploring the type of sensor and transducer used to convert physical quantities.
- temperature , pressure and flow into electrical signal for application.
- data acquisition system,gaming knowledge in the designated and implementation of data acquisition system that collected and analizing data from various sensor and instruments for monitoring and control purposes.
- automation and process control understanding how, measurements controle systeme are Applied in industrial automation including programmable logic controller ,PLC and supervisory control and data acquisition , SCADA..

* 10. Banknote processing machines specialized device used in the banking and financial store to handle ,.. in the banking sector to handle sort.

*Currency authentication understanding the technologie used in bank note processing machines to verify the authenticity of currency note ,this includes features like ultraviolet ,UK ligh detection magnetic character recognise and infrared IR , scanning.

10.1 telecommunication systems understanding the principles of communication system signal processing and networking design .

- Power systeme learning about the generation transmission and distribution of electrical power as well as renewable energy sources.

10.2 .neural ,

* Medical imaging using neural neural networks for image analysis in MRI ,CT scans and x- rays it improves diagnostic.

* Predictive analytics : developing model to predict patient outcomes or disease progression base on medical data

*10.3 Wearable technology : integrating neural networks into devices that monitor health metrics in real time .

* 10.4. Mathematics : advanced topics such as linear algebra calculus differential equations and status which are essential for modelling and solving Engineering problem .

*10.4.1. Physics : concept related to electromagnetic circuit theory and signal processing which or .circuciak understanding electrical systeand their applications.

-10.4.2andragogy focused on the methods and principle used in adult educay emphasising the unique need of adult contest of your master program understanding andragie help you design effive learning experience.

-10.4.3 educational philosophy involves the study of the fundamental naturel and purpose of education it can guide your approach to learning and teaching help your approach to learning and teaching help you to develop a personal philosophy that design with your goal in Engineering Education.

*10.4.5Professional theory this include the ethical legal and social implications of engineering practices as well as the responsibility of the Engineering in society it prepares you to make informed decisions in your professional career.

*10.5.4..Trade theory ,this focuses on the technical skill and knt requirements in specific engineering trade it often include hand , on training and pratical application of Engineering concepts.

*10.5.4. Industrial electronics this invot the study of electronics systeme used in industrial applications including automation control system ,and robotics sensor , actuator and the integration of electronic systems in manufacturing process.

* 10.5.5Digital system : focused on digital circuit design microcontroller and digital signal processing digital technology is applied variance field .

- *Advanced circuit theory : building on basic circuit principle to explore complex circuit network theories and analysis technique.
- *10.5.6 Electro magnetic including Maxwell equation wave propagation and field theory which are crucial for many.
- 10.5.5 control system : delving into advanced control theory include feedback system stability analyzing and control design techniques.
- 10.5.6 electromechanical mechatronics is an exciting interdisciplinary field that combine mechanical engineerin.
electronics computer.
- 19.5.6 mechatronics systems systems understanding how mechanical systems integrate with electronics control and software to create intelligent system the include robotics ,Utomation and smart device .
- 10.3. controle systeme learning about the principles of controle electromechanical system loops ,sensor .
- *10.4 Design and analysis ,gaining skill in design and e mechatronics focusing on their functionality efficiency.
- computer architecture.
- ,- 10.5. parallels computing understanding how multiple processors or core work together to perform task more efficiently including concept like parallel algorithms concurrency and synchronisation.
- 10.6. computer architecture learnings about the design and organisations of compulotor system including CPU memory hierarchy input ./ Output system.
- 10.7. performance evaluation , analysing the performance parallel system including metric .
- 10.8 . policy development understands how to create implementation and maintenance policies that govern organisation practice especially in Engineering projects .
- *10.8. compliance and risk management learning how to ensure that police align with legal and regulatory requirements. As well how to assess and mitigate risk, association with engineering practice.
- * Information system exploring how technology management policies documents management system workflow automy data analytics to tract compliance..
- * 10.9 .Security systemes , understanding the design and implementation of system that protect information and asset including cybersecurity measure encryption and secure communication protocol
- * 10.10.Safety engineering: learning about principle of designing system that ensure the safety of user and the environment ,including risk assessment hazard analysis ,and safety management systems..
- *10.11. defense system : exploring technologie and strategic used in national defense , including surveillance systems threat detection and response mechatronics.
TV radio .
- * 10.1 media frequency : understanding the electromagnetic spectrum and how different frequencies are used for various forms of communication including any and FM radio television broad casting

Topics ,are

- 11. project management : gaining skill in managing electrical construction project including buildings budgeting schedule.
- * 11.1 .Entrepreneurs , management design management their .
- *11.2. business planning understanding how to create comphrensive business plan that outline goal strategies and financial projections is crucial for securing funding guiding busiy operation .
- * 11.3. projection management learning about tools and techniques for managu project including

schedules resource allocation and risk Mt helps entrepreneurs budget.

- financial management : gaming knowledge in managing in managing finance include budgeting accounting analyse this is business decist and ensure profitability.

* Marketing and sales strategies : exploring effects marketing techniques and sale strau to attract and ret custt includes digital e.

*Technology integration , understand how to leverage technology and software solutions to streamline operational improves efficiency.

Low commercial regulation refere to minimal government intervention and oversight in commercial activities

- impact on businesens operation , understanding how low regulation can create armored flexible environment for businesses allowit for easier entry into

-11.3.-market and dynamics : analysing how regulation effect competition innovation consumer chaise can lead to increased entrepreneurship but also raise can lead ,to increased entrepreneurship but also raise .

- 11.4 .legal framework learnings about the legal aspects of commercial regulation including contract trade practice and consumer protection low even low , regulation environment business must navigation countries approach commercial regulation and the .

-11.5.implication for internatt : trade and investment , mining geotechnical engineering is a specialized ,field that focuses on the behaviour of earth material in mining operations.

* Geotechnical analysis: understanding the properties of soil and rock behvot under various conditions this is crucial design .

* Slope stability learn about the analyse and design of slopes in open ,pi mining and undersgroun , excavation to parent landslides.

* Ground support system , exploring the design .

* Global perspective , exploring how different countries approach commercial regut and the imply for international trade and investment .

* Mining geotechnical engineering is a specialized field that focuses on the behaviour of earth material in geotechnical analyse , understanding the properties of soil and rock material including their strength stability and behaviour under various conditions ,this is crucial for design safe and efficient mining .

* Slope stability : learning about the analysis and ..design of slopes in open mining and underground excavation to prevent land slide and ensure the safety of workers and equipment.

* Ground support systems:.exxplot the design and implementation explore ground support system ,such as Rick bolts shot Crete and mesh to stabilize excavation collapse.

* Environmental considerations: understanding the environmental impact of mining activities and how to mitigate risk associated with with ground .

* Site investigation risks associated with ground .

Site investigation gaining skills in conducting site investigation to assess geological and inform mining design and planing.

- 11.5electrical stability understanding stability of electrical system including voltage stability frequency stability and transient stability this involves analizing how systeme response to distribution and ensuring they can return to stable operating conditions.

-transformer operation including how they step down level in power systems ,you 'll study design effect and perft characteristics.

* 11.6.1Transformer conservation , exploring method method for conserving energy in transformer operational including to, management tools management maintenance,practice and the use of energy efficiency .

*11.6.6 Transformer crucial for reducing losses and improving overall system efficiency.

* Conditt : monitoring gaming knowledge in tech monitory the health and performance of transformer including temperature monitoring insulation testing dusgnostt .

* Spatial Caltrain concept in various fields.

-11.7. spatial control system : understanding how to design implementation control system that montage the position and movement of object in a three dimensional space crucial in application .

* 11.6. Robotic and automation learning about the principles of controlling robotics system include kinematics dynamic, exploring how to integrate sensor GPS lidar camera into.

12. *Transmission system learning about the design and operation of transmission system for radio and television include antennas, modulation technique and signal processing.

*12.1 Broadcasting technology exploring the technology used in broadcasting such as satellite communication digital broadcasting and stream.

* 12.2. Sound engineering : understanding the effect of acoustics, include sound wave with sound design and audio technology, include application in audio engineering noise control and sound system design.

* 12.3. Optic : learning about the behaviour of lights including.

- broadcasting, exploring the technology used in broadcasting such as satellite communication digital broadcasting and the principle of acoustics including sound wave propagation sound design and audio technology application in audio noise control sound system design.

* 12.4. Optics : learning about the behaviour of light including reflection refraction and diffraction. you will study optical system lenses mirrors and fibre optic which are essential in various technologies including image systems.

* Application, exploring how sound and can be integrated into Engineering solutions such as image (ultrasound) optical communication system and sensor technology.

*12.5. Electrical machines: understanding the principles and operations of electric machines including motor generator, and transformers, you will learn about their design control and application in various industries

* 12.6. Electrotech : this field focuses on the study of electrical system and their components including circuit design power distribution and electrical safety you will gain knowledge about the standard and regulations governing electrical installation, electrotechnology this encompasses the application of electrical and electronics technology in various fields including automation control system and renewable energy systems explore technology are used to improve efficiency and performance in Engineering application.

* 12.7. Radio wave propagation understand how radio wave travel through different engineering environment including factors that affect their range and quality such as terrain, weather and frequency.

*12.8; communication system : learning about the design and operation of radio communication system including AM, FM and digital radio broadcasting.

* Antenna design: exploring the principles of antenna theory and design including different types of antenna and their application in various communication systems.

*12.9 signal processing: gain knowledge in technique for processing and analyzing radio signals to improve communication quality and efficiency.

12.10. Radiotech play a crucial role in telecommunication broadcasting and many modern technologies if you study modern technologies.

- random signals understanding the characteristics and analysis of signal that have a random or stochastic nature, this includes studying noise statistically.

- *12.11 vibratory signal : learning about signal related to vibration which can be crucial in fields like mechanical engineering structural health monitoring and acoustics you will study how technology interpretation vibrator signals, to assess the condition of structural of machinery.

*Application, exploring how both random and vibration signals are used in various applications such as in telecommunication audio engineering.

*12.12. probability theory: understanding the principles of probability including random variables probability distribution and the law of large numbers this knowledge is essential for modelling uncertainty engineering systems.

*12.13 statistical methods: learning about various statistical techniques for data analysis including hypothesis testing regression and statistics inference, these methods are used to.

***12.14 . building electrical system and materials are essential component in electrical engineering.**
- built electrical system: understanding the design installation of electrical system understanding the design installation of electrical system in building include lighting power distribution and emergency system you'll about codes and standards that govern electrical installation.

12.15. electrical material study the various material used in electrical system conductor , insulator , semiconductor you explore their property how they affect the performance and safety of electrical system.

***12.16. sustainable practices : learning about energy efficiency design and renewable energy integration in built design and renewable energy integration in building systems include solar power and smart grid .**

-*12.17. construction electrical refer to the electrical system and installation that are integral to building.

***12.18. electrical design : understanding how to design electrical system for built including power distribution lighting and communication system how to design electrical system for building include power learn about load calculations circuit design and systems.**

*** Installation practice learning about the best practices installation electrical system in construction. Project wiring panel installation and safety protocol.**

*** Built code and standards familiarizing with the local and national code that govern electrical installation in construction.**

13. * Winding on rewinding transformers and machines both DC and AC involves understanding the specification of the windings the types of machine , and the desired ,

13.1.* Understanding the types of machines . * DC machines these include DC motor and generator which typically have -armature windings and field windings.

- AC machine : these include ,AC motor ,like induction synchronous motor and transformer .

-2 key parameters for windings.

a winding specifications;

1. Number of turns (N) the number of turns in the winding affect the voltage and current characteristics.

2. Wire gauge : the thickness of the wire affect the resistance and current carrying capacity.

3.* Winding configuration Series parallel combination depending machine type calculating winding parameters.

*** For DC machine .**

1.calculate the number turns the number of turns can be calculated based on the desired magnetic field strength for DC motor, back EMF (E_b) $E_b = \frac{N \cdot \Phi \cdot \omega}{60}$

-

- to calculate aspect related to telephonic cellular telecommunication supply .

- understanding cellular telecommunication supplies cellular telecommunication supply involves the infrastructure and resource required to provide mobile communication .

*** Base station : equipment that connect mobile devices to the network's.**

*** Backhaul the connection between base station and the core networks.**

*** Core network the central part of the telecommunication network that manage data and voice traffic ,##2* key calculation.**

a* coverage area calculation the coverage ,area of cellular tower can estimate using the following , $A = \pi r^2$

A = coverage area (in square kilometres)

r = radius of coverage (in kilometres)

Example : if a tower has a coverage radius of ,5 km

$A = \pi (5^2)$ approx ,78.54 km^2 .

b. Capacity calculation: the capacity of cellular network calculated based on the number of channels available ,traffic per channel the Erlang ,B formula is commonly , $[c=\frac{(A^B).}{B.}] \backslash$ big / sum ..

* To calculate the component of a cellular telephone system and derive relevant integral, .

1. Components of a cellular telephone system ,

A: cellular telephone system typicay consist of the components.

* Mobile station (ms) * the users device ,smart phone tower that communication with mobile stations.

* Mobile switching centre ,MSC , manages the communication base station and the core networks .

* Core network,handles data routing billing and other ,

,2 calculating key metrics.

a.coverage ,Area calculation the coverage area of a base station be estimated using .

$$\backslash[A=\pi r^2]$$

-where .\ (A)= coverage area in square kilometres .

.\ (r)= radius of coverage in kilometres ,ex : if a base station has a coverage radius of ,3 km .

$$\backslash [A=\pi (3^2)\approx ,28.27\backslash,\text{km}^2]$$

.b capacity calculation.

To calculate the spatial transmission characteristics of a system particularly in telecommunication.

##/ understanding spatial: transmission, spatial transmission refer to how signal private ,space transmission refer to how signal propagation space ,factor distance obstacle ,and the environment.

* Free space path loss (fspl) the loss of signal strength ast travel through free space.

* Multiple path propagation the phenomenon where sign effect : the change in frequency of wave in relation to an observe moving relative to source of the wave .

2 calculating free space path loss (fspl) the free space path loss can be calculated using .

$$\backslash [\text{fspl} = 20 \log \{ \frac{d}{f} \} + 32.44] \text{ where : } \backslash d = \text{distance between the transmit and receiver , kilometres ,} \backslash f = \text{frequency of the signal ,in megahertz ,example calculation ,if the distance ,} \backslash d \text{ is ,10 Km and the frequency, (f) is ,900MHz ,} \backslash [\text{fspl}]$$

To calculate the properties of material used and conductor insulator and magnetic material in electrical and stereo ,system ,we can analyse their characteristic.

1. Conductor : are material resistance common conductor..

- resistivity calculation the resistivity,

(\rho) of conductor is a measure of how strongly it resist the flow of electric current the resistance ,

(R) Of conductor can ,

$$R=\rho \frac{L}{A}$$

.\ (R)= resistance,(ohms) .

.\ (\rho)= Resistivity (ohm metre)

.\ (L)= Length of the conductors meter

.\ (A)= Cross - sectional area ,saaremeter .

Ex . Calculation for copper wire with a length of ,2 meter and a cross ,section area of \(\text{mm}^2\)

(Which is / (\times ,10^{-6} , m^2)) And using the resistivity of copper (\rho \approx ., 1,67 \times . 10^{-8} , \Omega \cdot \text{m}) ,

$$R= 1.68 \times 10^{-2} \Omega$$

To calculate the size of a winding for stepper motor .

1. Understanding stepper motors.

- a stepper motor is a types of DC motor that decides a full rotation into a number of equal step winding configuration and size are crucial for the motor .

* Number of phase : most stepper motor are either ,2 phase ,5 phase..

* Number of steps per revolution ,common value are ,200 steps ,(1.8 degree per step or ,400 steps (0.9 degree per sleep .

- * Windt configuration the arrangement winding unipolar wire gauge : the thickness of wire used for the winding effects resistance ,
- 3. Calculating the size of the winding : determine the number of turns s , the number of turns in each winding ,calculated based motor specifications : for example , $N = \frac{v}{L \cdot \omega}$

-14. measure in true.

*1 types of measure errors measure : systematic these are considering repeatabt errors that occurred measurements system they.

*Random error unpredictable and can vary from one measure.

- gross errors : the are large errors that occure to human .

* Calibration of instruments ,calibrat is the process of adjusting instrument to ensure its measure are accurate step for calibration.

1. Select a standard: use a reference standard.

2. Measure with the instrument take measures using the instrument.

3. Compare measurements , compare the instruments .

4. Calculate errors the errors can $\text{error} = \text{measured values} - \text{true value}$

5. Adjust the instrument if system error are found adjust .

- to perform conversion between binary hexadecimal.

Conversion between number systeme.

* To convert a binary number to decimal ,use the formuler , $\text{Decima} = \sum_{i=0}^n b_i \cdot 2^i$,where (b_i) is the binary digital (0or1) and (n) is the position of the difit from the righth starting at 0 convert , (1011_2) to decimal $= 1 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0$,

$2^1 + 1 \cdot 2^0 = 8 + 0 + 2 + 1 = 11_{10}$

-decimal to binary : to convert a decimal number to binary divide the number by ,2 and record the remainder , repeat until the Quotient record the remainder ,repeat until the Quotient is ,On

Exp : convert (10_{10}) to binary .

$10 \div 2 = 5$ quotient 0 , $5 \div 2 = 2$ quotient 1 , $2 \div 2 = 1$ quotient 0 , $1 \div 2 = 0$ quotient 1

-to calculate the size of a memory accumulator in a binary system.

1) understanding binary representation:

In a binary system ,data is represented using bits ,binary digital where bit can either 0or,1 the number determine the range ,of value that can store .

2. Memory size calculation : the size a memory accumulator based number of bit it the total number of unique represented by an (n) bit binary number .

$\text{number of values} = 2^n$

Where . (n) = numbers of bits.

* Example calculation: determine the size of the accumulation.

2) calculate the number of value , $\text{number of values} = 2^8 = 256$

This mean the accumulator can hold values from (01) to (255) (decimal ,### memory size in bytes

* memory size is of expressed in byte since ,1 byte = 8 bit ,size of the accumulator in bytes is size , { sizer

To calculate thevenin , equivalent of a network ,short circuit current and voltage value ,

1. Thevenin theorem.

* Overview: thevenin theorem state that any linear Electrical net with voltage source and resistance can be replaced by an equivalent circuit consisting of single voltage source (V_{th}) in series with with a single resistor (R_{th}) .

2. Step to find the in equivalent.

a identify the portion of the circuit select the portion the circuit for which

b calculate thevening voltage (V_{th})

1. open - circuit voltage, calculate the voltage across the terminal where the load was connected this is the thevenin voltage (V_{th})

- 2 method : you voltage division nodal analysing

- calculate thevenin resistance (R_{th})

- deactivated all independent source : replace independent field.

- to calculate amplification in circuits involving diodes transmission diode transistor ,and triacs understand each a analyse characteristics.

diode amplification diode are typically not used for amplification in the Sens performance signal modulation rectification signal signal modulation rectification diode current calculation.

$I_D = I_S \left(e^{\frac{V_D}{nV_T}} - 1 \right)$

. I_D = diode current (A).

. I_S = reverse saturation current.

. V_D = voltage across the diode ,V

. n = ideality factor (typical between ,1 and ,2

. V_T = thermal voltage (≈ 26 MV) at room .

2. Transistor application transistor can use common collector thermostat common ,is common emitter amplifier .

1. Voltage gain (A_v)

To analyse and calculate parameter in a control system we typically focus on aspect such systems stability response.

2. Basic concepts in control system.

* Open - loop control system : system that does not use feedback to determine if it's output has achieved the desired goal .

* Closed loop control system system that uses feedback to compare the actual output to the desired output.

,2 transfer function

The transfer function.

The transfer function ($H(s)$) of a control system relates the output ($V(s)$) and $\dot{V}(s)$ for stability.

14.4 transformation to linear system to transform a hyperstatic system into a linear system , we can use the following step , modelling a motion ..

14.6 creating a programme for a artificial intelligence ,AI , system that focuses on operational metering in electric system involves several steps , including defining the object design the architecture implementation . Algor designed the architecture implementation aloris below .

- 1 define objective

- purpose : the AI system should monitoring analyse and Optimizer electric metering operations.

14.7.

Key features:.

- real time data collection from electric meter .

- data analysis for consumption patterns.

- anomaly detection for identifying irregularity.

- predictive maintenance for meter reporting and visualisation of data.

14.8. system architecture: data source electric meter and sensor ,Day ,SQL no SQL) to store historical data .

* Processing layer , implement data processing and analysis using AI algorithm.

* User interface development a dashboard for user to visualisation data and insights.

* Data collection / use API ,direct connection to gather data from electric meters,example shifter for data collection ,(python)

* Python,import request,def ,collect meter dentK meter data storage.

- r esponse request get ,(f" http:// API electricity meter comparable ,/ { meter _ l'd "}) return

response .jsob ()

14.9. Creating an expert system for network involved several steps . < Including defining the objective designed the architecture. Implementating the algorithm below is a structure approach to developing.

-* define objective :

Purpose .the expert system should assist in network management troubleshooting and optimisation.

* Key features: network monitoring and performance analysis troubleshooting and diagnostic capabilities.

- recommendations for network configuration.

User friendly interface for networking administration.

2. System architecture , knowledge base a repository of network knowledge including rules ,fact and their inference engine the core Logical knowledge base derive, user interface

- implementation step : knowledge base development. protocols configuration common issues and solutions

-plain text .

If network _speed

Acceptable _ level then

Recommended _ check _ hardware.

- inference Engine implement the inference Engine to process user queries and apply the rules from the knowledge base.

Ex code snippet , python.

Python

Class expert system

Def _ init_ self

Self . knowledge base

- to analyse a pneumatic hydraulic vibratory system equation governing the system and performance integrals

1. Understanding the system ,A pneumatic - hydraulic

Vibrator system typically consist of

* Pneumatic components : air driven actuator or cylinder.

* Hydraulic components : fluid driven actuator or cylinder

to

16. hydraulic components: fluid driven actuator or cylinder .

* Vibratory mechanism , A system that produces oscillator or vibration, often used in applications like material.

2 . deriving equation for a pneumatic hydraulic system the dynamic described using Newton second law and the principles of fluid mechanics

1 force balance the net force acting on the system, express as $\sum F{\text{net}} = F_{\text{pneumatic}}$,

$F_{\text{hydraulic}}$, F_{damping} - F_{inertial}

2.* Pneumatic force .the force generated by a pneumatic actuator.

To derive the relationship force ,motion. ,power ,energy .

$[F = m \cdot \dot{a}]$ where.

$\cdot F$ = force (N) , m = mass (kg) a = acceleration , (m/s.s)

* Work done by a force : work (W) is defined as the force applied to an object time distance (d) over which the force

Is applied in the direction force .

$$W = F \cdot d \cdot \cos(\theta)$$

W = work ,joule

F = force ,N

d = Distance,m

θ = angle between .

3 energy :

Kinetic energy , ($K.E$) is the energy of an object due to its motion .

$$K.E = \frac{1}{2} \cdot m \cdot V^2$$

Where .

V = velocity (m/s) ..to analyzing the concept of magnetic electromagnet and electrostatics, system in relation to resonance , or damping and solenoids

- understanding the concept.

- solenoid , a coil of wire generate a magnetic field an electrical current pass through it.

* Magnetic moment , A measure of the strength and direction of a magnetic source

* Electromagnetic induction , a measure of the strength and direction of a magnetic source .

* Electromagnetic induction . the process by changing magnetic field induce and electromotive force , EMF , in a conductor .

* Electromagnetic ; refer to the motion of charged particle a fluid under the influence of an electric field magnetic moment of solenoid.. the magnetic of solenoid.

- the magnetic moment (M) of a solenoid , $M = n \cdot I \cdot A$

Where . n = number of turns per unit length , turns / m

I = current throughout the solenoid , A

A = cross - sectional area of the solenoid, mm. Electromagnetic induction

- according to Faraday's law electromagnetic the induce

16.3. The term Quotient intellectual calculus is term in mathematics or intellectual ass.

- intellectual Quotient , (IQ) , the , IQ is a measure of a person's intellectual abilities in relation to standardised test that assess various cognitive skill .

- $IQ = \left(\frac{\text{mental age}}{\text{chronological age}} \right) \times 100$

- mental age : the age level at which a person perform intellectual.

- chronological age : the actual >

2. Quotient in calculus.

If you have two function $f(x)$ and $g(x)$. the quotient $A(x) = \frac{f(x)}{g(x)}$

3. Calculating the derivative of a quotient , $\frac{d}{dx} \left(\frac{f(x)}{g(x)} \right)$

- to analyse psychometric variance , variance in electrical psychometric field of study concerned with theory of psychopedagogical measurements knowledge ability attitudes and personality traits in this psychometric test analysed statistically ..

2. Calculating variance is statistics measure that represent the degree of spread in set of value in the of electrical measurements. for variance : the variance (σ^2) of a set of values

(x_1, x_2, \dots, x_n) is calculated using formula

$$\sigma^2 = \frac{1}{n} \sum_{i=1}^n (x_i - \mu)^2$$

- σ^2 = variance

(X_i) = Each inductive . observations

- formulation

In electrical engineering under is crucial for analyse data especially.

1) variance : measure how a set of value differ from the mean of set it quantite the spread of the data paint .

-for a set of $\{x_1, x_2, \dots, x_n\}$ observt it quantt the spread of the data .

Point formula for variance.

For a set of $\{x_1, x_2, \dots, x_n\}$ isots , x_n)

$$s^2 = \frac{1}{n} \sum_{i=1}^n (x_i - \mu)^2$$

Where. s^2 = variance.

n = number of observations .

x_i = each individual observation .

μ = mean of thicd ..

$$\mu = \frac{1}{n} \sum_{i=1}^n x_i$$

2.covariance measure the degree to which two the degree to which two random variables change together indicate the direction of the linear relationship between the variable : { foetus set of observations $\{x_1, x_2, \dots, x_n\}$ and $y = \{y_1, y_2, \dots, y_n\}$

3. Calcul the electrical installation requirements for a building term .

- understanding power and energy .

* Power , P * measure in kilowatt (kW) it represent the rate at which electrical energy is consumt products .

* Energy , E : measured in kilowatt hour , kWh it represents.

$$E = P \times t$$

E = energy in kWh

P = power in kW

t = time in hours .

- 2 calculating total power demand to calculate the total power for a building.

- list of electrical load lighthning , 10 fixtures a , 15 watt each , HVAC : 3 kW , appliances , 2 kW other equipment , 1 kW ..

2 calculate total power demand lighthning $\{10 \text{ fixtures} \times$

- defensive scope process , applicability

Claim system

Thesis

Overview; education trade

Key

-brigades vs private security public safety police government student police army order public police
CA safety ,vs student portofy police metropolitan student student case government thermie vs
securite gov study .

-* overview ,key topics prospectus university operational task requirements criteria college
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* Applied trade to resolve trade, applied sciences math work operational applied vocational national
framework sciences math work operational applied continue university institute trade low rules.

- key , overview abstract trade concept trade theory electric conception ,idea phylosophie education
trade undragogie idea axiom argument resonement univer summary application vs college scope.

- trade submission mission applied trade to supply.

- abstraction , metaphysical metaform transformer trade university vs College purpose that
requirements basic principle installation that career vs university.

- Vs e cpd diploma trade continue Scotland continue diploma trade certificate master degree
construction master degree , professional supplemtaire continue vs diploma graduate continue
integration and master degree short not professional skills development degree discovery career
center master tlc technical learner college diploma and master degree diploma building electrical
master businesses please can see satellite, combination cpd training job the don't want to
vocational cashier and ncv and relate ,and hr w.

* Distance learning courses is for people don't have time no distance learning is for people have
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university e.

- work distance home programme workplace place the is not space to make things .

- research master degree engineering electrical trade CVS in research master degree Education
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electrical.

+Framework saqa engineering is not Education technologie Education technic pedagogie career
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- technologie manufacture research not Engineering matric engineering trade CVS .

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Education in labour Education relation labour in security defense posted for understanding
university undergraduate work sars sarb level master Eaton Scheineder master principle
engineering engineering 12 years staff master ,12 years the appoint seniore training power city the
appointment .

12 years experience job duty if the train senior advance technology you pass if not must work

orientation TVET or master ,2 years .

- 12 years stables office work engineering power trade sign report draw design ups building is no stable is there building everyday,only one building the trade lay is not master office road is notaster office road public work stability
- have 1000 building new installation ,100 building city japon China ,100 entrepreneurship author chine in Congo e,3 years after years wiring engineering ,1000building USA rebuild computer wiring ,1000 architecture.

12 years experience cadet minim junior senior semester experiemental duty training college and job trade drilling foreman experiemental after ejunior engineering staff engineering engineering engineering staff engineering job cpd engineering categories engineering cadet ,grade ,12 N1 junior level ecoxustrure Microsoft training cadet function duty grade,A,B,C,d job in your trade e ,N1,N2,N3,N4,N5,N6, subject module experiemental duty editing type career transmission generation power do it trainer do saps duty office doing cpd ,doing type career doing transmission generation power do it trainer do saps operation power do in your thesis advance field diploma do it seniore and principal engineering director duty core ,b

to

1. Overview v: school money make is budget academic voting wordsr asssestment order book copyrt order salary pay sleeping salary base shift teacher lecture learn auditing years pay bonus lesson from ,100 rand per day day shifting ,2500 rand salary wage bonus annual ,× 12 month over e extra class teacher in lecture assessor moderator granted primary,6 teacher high School ,12 teacher subject n2 to ,n 6 six lecture if double shift teacher and lecture rand house home air time water,× 100 rand ,× 30,3000 ×9000+900 water water = 18000 rand class per month grade ,10×800, rand 800×6 = 400000×12= 48000000 rand ,pay government returned tax , Amandment .

- bank account school have ,200000 rand account school ,2000000 estimate budget and money granted award now compliance ,5 5000 rand by school desk chaire desk panel wiring buyer ,poy Ccma labour court award ,bank school teacher e to Ccma t seta casebook , money school pay is not for boss is school ,pay money school pay is not for boss is school pay money school make arrested irregularity .
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- development pay aware compensation labour infrastructure development building docket public

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- compliance week trainer practice customer record instruction bulletin Eaton installation week long answer buy trade in plant customer sale Eaton Scheineder modicon Relais instruction customer microstf customer money answer trade filling appreciate job is week customer sale Eaton make modicon didn't come RSA customer Microsoft dynamics sale make find training it is secret career didn't show is the place permitted can enter where the make those components accept you make a project with and watch zone 52 scope volant Microsoft ,10000 badge key gate office didn't see wath the doing retirement license trade traiblazet,2000!the make difference country plastic dra

Sure! Here is a basic database schema for an online merch store:

Entities:

1. Users:tshingombe tshitadi fiston
 - username: tshingombe fiston
 - email: tshingombefiston@gmail.com
 - password

2. Products

- product_id
- product_name: engineering thesis journal assement
- description: engineering
- price
- category_id

3. Categories

- category_id (
- category_name

4. Orders

- order_id
- user_id
- order_date
- total_amount: 50000\$

5. OrderDetails

- order_detail_id
- order_id
- product_id
- quantity
- subtotal

Relationships:

- One user can have multiple orders (One-to-Many)
- One order can have multiple products (One-to-Many)
- One product can belong to one category (Many-to-One)

This is a basic schema and can be expanded based on additional requirements such as product variations, discounts, shipping details, etc.

\$(Token Used By this Response 259)

Entities:

1. Users

- user_id (Primary Key)
- username: tshingombe fiston
- email: tshingombefiston@gmail.com
- password

2. Products

- product_id (Primary Key)
- product_name: engineering thesis journal assessment
- description: engineering
- price
- category_id

3. Categories

- category_id (Primary Key)
- category_name

4. Orders

- order_id (Primary Key)
- user_id (Foreign Key referencing Users)
- order_date

- total_amount: \$50000

5. OrderDetails

- order_detail_id (Primary Key)
- order_id (Foreign Key referencing Orders)
- product_id (Foreign Key referencing Products)
- quantity
- subtotal

Thank you for providing the information. Based on the input given, I will proceed to create a personal webpage for you with the following details:

****Personal Webpage for Kananga5****

****Color Scheme:** Blue and White**

****Theme:** Professional and Academic**

****Content/Sections:****

1. Introduction
2. Academic Achievements and Research Topics
3. University Thesis Publications
4. Contact Information

****Short Bio:****

Kananga5 is a dedicated researcher and academic enthusiast with a passion for exploring diverse topics within their field of study. Their academic journey has led to numerous achievements and publications, including notable work on diverse university thesis topics

In a Master of Science in Electrical Engineering (MSEE) program with a focus on electrical and industrial electronics, you may encounter a range of core courses and topics that form the foundation of your studies. Here are some common core courses and topics you may expect to encounter in this specialization:

1. ****Power Systems Analysis****:

- Power System Stability
- Power Flow Analysis
- Fault Analysis
- Power System Protection

2. ****Industrial Electronics****:

- Power Electronics
- Variable Frequency Drives
- Industrial Automation
- Control Systems

3. ****Electric Machines and Drives****:

- Electric Machine Design
- Motor Control Techniques
- Electric Drives
- Electromagnetic Field Theory

4. ****Embedded Systems****:

- Microcontroller Programming
- Real-time Operating Systems
- Embedded System Design
- Interface and Communication Protocols

5. **Signal Processing:**

- Digital Signal Processing
- Image Processing
- Audio Processing
- Filter Design

6. **Control Systems:**

- Feedback Control Systems
- State-Space Analysis
- PID Controllers
- Robust Control

7. **Communication Systems:**

- Digital Communication
- Wireless Communication
- Optical Communication
- Modulation Techniques

8. **Electrical Design and Testing:**

- Circuit Design
- PCB Design
- Testing and Troubleshooting
- Reliability Engineering

When working on your thesis in electrical engineering with a focus on electrical and industrial electronics, you may explore advanced topics within these areas and conduct research on cutting-edge technologies and applications. It is essential to stay updated on industry trends, advancements, and emerging technologies to excel in this field.

Please note that specific course offerings and topics may vary depending on the university and the program curriculum. It is recommended to consult with your academic advisor or program coordinator for a detailed outline of the courses and topics

It seems like you're looking to combine trade theory, electrical engineering, electronics, and mathematics in your thesis. Here is a potential thesis topic that integrates these areas:

Title: "Integration of Trade Theory in the Design and Optimization of Electrical and Electronic Systems using Mathematical Models"

Abstract:

This thesis explores the integration of trade theory principles in the field of electrical engineering and electronics to optimize the design and functionality of complex systems. By leveraging mathematical models and economic concepts, this study aims to enhance the efficiency, cost-effectiveness, and performance of electrical and electronic systems in various industries.

Research Objectives:

1. Investigate the key principles of trade theory and their applicability in the field of electrical engineering and electronics.
2. Develop mathematical models to represent the interplay between trade-offs, costs, and performance in system design.
3. Analyze case studies to demonstrate the application of trade theory in optimizing electrical and electronic systems.
4. Evaluate the impact of integrating trade theory and mathematical models on the efficiency and

sustainability of complex systems.

Methodology:

- Review existing literature on trade theory, electrical engineering principles, and mathematical modeling techniques.
- Develop a framework for integrating trade theory concepts with mathematical models for system optimization.
- Conduct case studies and simulations to demonstrate the practical implications of the proposed approach.
- Analyze the results and draw conclusions on the benefits of incorporating trade theory in electrical and electronic system design.

Potential Contributions:

- This thesis aims to bridge the gap between trade theory and engineering disciplines, offering a novel perspective on system design and optimization.
- The findings could provide valuable insights for practitioners in the field of electrical engineering, electronics, and trade economics.
- The integration of mathematical modeling and trade theory concepts may lead to more efficient and sustainable solutions in complex systems.

By focusing on the intersection of trade theory, electrical engineering, electronics, and mathematics, this thesis has the potential to make a significant contribution to the advancement of interdisciplinary research and innovation in these field

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Picks of the month

Commented version of IEC 60335-2-15:2024 CMV, Household and similar electrical appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids

Redline version of IEC TS 62600-100:2024 RLV, Marine energy - Wave, tidal and other water current converters - Part 100: Electricity producing wave energy converters - Power performance assessment

Extended version of IEC TS 62271-316:2024 EXV, High-voltage switchgear and controlgear - Part 316: Direct current by-pass switches and paralleling switches

Pre-release version of IEC 61109:2024 PRV, Insulators for overhead lines composite suspension and tension insulators with AC voltage greater than 1 000 V and DC voltage greater than 1 500 V - Definitions, test methods and acceptance criteria

Consolidated version of IEC 62288:2024 CSV, Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results

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Information security - Time-stamping services - Part 2: Mechanisms producing independent tokens - Technical Corrigendum 1

ICS code 35.030 | ISO/IEC JTC 1/SC 27 CHF 0 .-

IT systems**IEC 61131:2024 SER****Programmable controllers - ALL PARTS****ICS code 35.040.40, 35.240.50 | SC 65B CHF 3052 .-****ISO/IEC 5259-2:2024****Artificial intelligence - Data quality for analytics and machine learning (ML) - Part 2: Data quality measures****ICS code 35.020 | ISO/IEC JTC 1/SC 42 CHF 173 .-****ISO/IEC TS 9922:2024****Programming Languages - Technical specification for C++ extensions for concurrency 2****ICS code 35.060 | ISO/IEC JTC 1/SC 22 CHF 129 .-****ISO/IEC TS 10866:2024****Information technology - Cloud computing and distributed platforms - Framework and concepts for organizational autonomy and digital sovereignty****ICS code 35.210 | ISO/IEC JTC 1/SC 38 CHF 96 .-****ISO/IEC 14496-26:2024****Information technology - Coding of audio-visual objects - Part 26: Audio conformance****ICS code 35.040.40 | ISO/IEC JTC 1/SC 29 CHF 216 .-****ISO/IEC 15444-1:2024****Information technology - JPEG 2000 image coding system - Part 1: Core coding system****ICS code 35.040.30 | ISO/IEC JTC 1/SC 29 CHF 216 .-****ISO/IEC TS 18013-6:2024****Personal identification - ISO-compliant driving licence - Part 6: mDL test methods****ICS code 35.240.15 | ISO/IEC JTC 1/SC 17 CHF 194 .-****ISO/IEC 18975:2024****Information technology - Automatic identification and data capture techniques - Encoding and resolving identifiers over HTTP****ICS code 35.040.50 | ISO/IEC JTC 1/SC 31 CHF 96 .-****ISO/IEC TS 21419:2024****Information technology - Cross-jurisdictional and societal aspects of implementation of biometric technologies - Use of biometrics for identity management in healthcare****ICS code 35.240.80, 35.240.15 | ISO/IEC JTC 1/SC 37 CHF 129 .-****ISO/IEC 21794-5:2024****Information technology - Plenoptic image coding system (JPEG Pleno) - Part 5: Holography****ICS code 35.040.30 | ISO/IEC JTC 1/SC 29 CHF 194 .-****ISO/IEC TS 23220-2:2024****Cards and security devices for personal identification - Building blocks for identity management via mobile devices - Part 2: Data objects and encoding rules for generic eID systems****ICS code 35.240.15 | ISO/IEC JTC 1/SC 17 CHF 129 .-****ISO/IEC 30181:2024****Internet of Things (IoT) - Functional architecture for resource identifier interoperability**

ICS code 35.020 | ISO/IEC JTC 1/SC 41 CHF 151 .-

**Manufacturing
IEC TS 62453-43:2024**

Field device tool (FDT) interface specification – Part 43: Object model integration profile – CLI and HTML

**ICS code 25.040.40, 35.100.05, 35.110 | SC 65E CHF 425 .-
IEC 62541-15:2024 PRV**

**OPC Unified Architecture - Part 15: Safety
ICS code 25.040.40 | SC 65C CHF 563 .-
IEC 63261:2024**

**Representation of electrical and instrument objects in digital 3D plant models during engineering
ICS code 25.040.40 | SC 65E CHF 80 .-
IEC 63270-1:2024 PRV**

**Predictive maintenance of industrial automation equipment and systems - Part 1: General requirements
ICS code 25.040.01 | SC 65E CHF 405 .-
IEC TR 63283-5:2024**

**Industrial-process measurement, control and automation – Smart manufacturing – Part 5: Market and innovation trends analysis
ICS code 25.040.40 | TC 65 CHF 345 .-**

**Ships
IEC 61892:2024 SER**

**Mobile and fixed offshore units - Electrical installations - ALL PARTS
ICS code 47.020.60, 29.260.99 | TC 18 CHF 1607 .-
IEC 62288:2021+AMD1:2024 CSV**

**Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results
ICS code 47.020.70 | TC 80 CHF 800 .-
IEC 62288:2021/AMD1:2024**

**Amendment 1 - Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results
ICS code 47.020.70 | TC 80 CHF 10 .-**

**Telecommunications
CISPR TR 31:2024**

**Description of the radio services database
ICS code 33.100.10 | CIS/H CHF 115 .-
IEC 60793-1-40:2024 RLV**

Optical fibres - Part 1-40: Attenuation measurement methods**ICS code 33.180.10 | SC 86A CHF 400 .-****IEC 60793-1-40:2024****Optical fibres - Part 1-40: Attenuation measurement methods****ICS code 33.180.10 | SC 86A CHF 235 .-****IEC 60870-5:2024 SER****Telecontrol equipment and systems - Part 5: Transmission protocols - ALL PARTS****ICS code 33.200 | TC 57 CHF 3500 .-****IEC 60958:2024 SER****Digital audio interface - ALL PARTS****ICS code 33.160.01, 33.160.30 | TC 100 CHF 978 .-****IEC 61000-3:2024 SER****Electromagnetic compatibility (EMC) - Part 3: Limit - ALL PARTS****ICS code 33.100.10 | SC 77A CHF 3200 .-****IEC 61000-4-41:2024****Electromagnetic compatibility (EMC) - Part 4-41: Testing and measurement techniques - Broadband radiated immunity tests****ICS code 33.100.20 | SC 77B CHF 300 .-****IEC 61196-1-108:2024 PRV****Coaxial communication cables - Part 1-108: Electrical test methods - Test for phase, phase constant, phase and group delay, propagation velocity, electrical length, and mean characteristic impedance****ICS code 33.120.10 | SC 46A CHF 173 .-****IEC 61850:2024 SER****Communication networks and systems for power utility automation - ALL PARTS****ICS code 33.200 | TC 57 CHF 18743 .-****IEC 61850-6:2009+AMD1:2018+AMD2:2024 CSV****Communication networks and systems for power utility automation - Part 6: Configuration description language for communication in electrical substations related to IEDs****ICS code 33.200 | TC 57 CHF 2082 .-****IEC 61850-6:2009/AMD2:2024****Amendment 2 - Communication networks and systems for power utility automation - Part 6: Configuration description language for communication in electrical substations related to IEDs****ICS code 33.200 | TC 57 CHF 375 .-****IEC 61937:2024 SER****Digital audio - Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 - ALL PARTS****ICS code 33.160.30, 33.160.60, 35.040.40 | TC 100 CHF 1712 .-****IEC 61937-16:2024****Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 16: AVSA****ICS code 33.160.30, 35.040.40 | TA 20 CHF 40 .-**

IEC 61970:2024 SER**Energy management system application program interface (EMS-API) - ALL PARTS****ICS code 33.200 | TC 57 CHF 3885 .-****IEC 62148-2:2010+AMD1:2024 CSV****Fibre optic active components and devices - Package and interface standards - Part 2: SFF 10-pin transceivers****ICS code 33.180.01 | SC 86C CHF 165 .-****IEC 62148-2:2010/AMD1:2024****Amendment 1 - Fibre optic active components and devices - Package and interface standards - Part 2: SFF 10-pin transceivers****ICS code 33.180.01 | SC 86C CHF 10 .-****IEC 62351:2024 SER****Power systems management and associated information exchange - Data and communications security - ALL PARTS****ICS code 33.200 | TC 57 CHF 5359 .-****Terminology and metrology****IEC 60060:2024 SER****High-voltage test techniques - ALL PARTS****ICS code 17.220.20, 19.080 | TC 42 CHF 786 .-****IEC 60092:2024 SER****Electrical installations in ships - ALL PARTS****ICS code 01.040.47, 47.020.60 | TC 18 CHF 4413 .-****IEC 61340-4-11:2024 PRV****Electrostatics - Part 4-11: Standard test methods for specific applications - Testing of electrostatic properties of composite IBC****ICS code 17.220.99, 29.020, 55.080 | TC 101 CHF 225 .-****IEC 61869-20:2024 PRV****Instrument transformers – Part 20: Safety requirements of instrument transformers for high voltage applications****ICS code 17.220.20 | TC 38 CHF 120 .-****IEC/IEEE 63253-5713-8:2024****Station Service Voltage Transformers (SSVT)****ICS code 17.220.20 | TC 38 CHF 345 .-****Testing****IEC 60068-2:2024 SER****Environmental testing - Part 2: Tests - ALL PARTS****ICS code 19.040 | TC 104 CHF 6956 .-****Textile**

IEC 63203-204-2:2024 PRV

Wearable electronic devices and technologies - Part 204-2: Electronic textile - Test method to characterize electrical resistance change in knee and elbow bending test of e-textiles

ICS code 59.080.80, 59.080.01 | TC 124 CHF 285 .-

IECEE Test Report Forms**IECEE TRF 60227-5J:2024**

This Test Report Form applies to: IEC 60227-5:2024 in conjunction with IEC 60227-1:2024, IEC 63294:2021

CHF 550 .-

IECEE TRF 60227-5I:2024

This Test Report Form applies to: IEC 60227-5:2024 in conjunction with IEC 60227-1:2024, IEC 63294:2021

CHF 550 .-

IECEE TRF 60335-2-6S:2024

This Test Report Form applies to: IEC 60335-2-6:2024 in conjunction with IEC 60335-1:2020

CHF 1600 .-

IECEE TRF 60335-2-24U:2024

This Test Report Form applies to: IEC 60335-2-24:2020 in conjunction with IEC 60335-1:2010, IEC 60335-1:2010/AMD1:2013, IEC 60335-1:2010/AMD2:2016

CHF 1600 .-

IECEE TRF 60601-2-37H:2024

This Test Report Form applies to: IEC 60601-2-37:2024 for use in conjunction with IEC 60601-1:2005, IEC 60601-1:2005/AMD1:2012, IEC 60601-1/AMD2:2020

CHF 550 .-

IECEE TRF 60947-2L:2024

This Test Report Form applies to: IEC 60947-2:2024 for use in conjunction IEC 60947-1:2020

CHF 1600 .-

IECEE TRF 61000-6-2,4B:2024

This Test Report applies to: IEC 61000-6-2:2016 & IEC 61000-6-4:2018

CHF 1100 .-

IECEE TRF 61010-2-032G:2024

This Test Report Form applies to: IEC 61010-2-032:2019 used in conjunction with IEC 61010-1:2010, IEC 61010-1:2010/AMD1:2016

CHF 1100 .-

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This Test Report Form applies to: IEC 62477-1:2022

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IECEE TRF 80601-2-55E:2024

This Test Report Form applies to: ISO 80601-2-55:2018, ISO 80601-2-55:2018/AMD1:2023 for use with IEC 60601-1:2005, IEC 60601-1:2005/AMD1:2012, IEC 60601-1:2005/AMD2:2020

CHF 1100 .-

IECEx TRF 60079-0v7j_ds:2024

IECEx Test Report for IEC 60079-0:2017 edition 7.0, Explosive atmospheres - Part 0: Equipment - General requirements

CHF 235 .-

IECEx TRF 60079-0v6h_ds:2024

IECEx Test Report for IEC 60079-0:2011 edition 6.0, Explosive atmospheres - Part 0: Equipment - General requirements

CHF 190 .-

IECEx TRF 60079-46v1d_ds:2024

IECEx Test Report for IEC TS 60079-46:2017 edition 1.0, Explosive atmospheres - Part 46: Equipment assemblies

CHF 40 .-

IECEx TRF 80079-36v1c_ds:2024

IECEx Test Report for ISO 80079-36:2016 edition 1.0, Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements

CHF 115 .-

IECEx TRF 80079-37v1b_ds:2024

IECEx Test Report for ISO 80079-37:2016 edition 1.0, Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"

CHF 115 .-

Withdrawn/Replaced publications

Publication TC/SC Replaced by

IEC 60169-10:1983

SC 46F IEC 61169-10:2024

IEC 61144:1992

TC 10 Withdrawn

IEC 61753-121-3:2010

SC 86B Withdrawn

IEC TR 62271-302:2010

SC 17A Withdrawn

IEC 61755-3-32:2015

SC 86B Withdrawn

IEC 61753-121-2:2017

SC 86B Withdrawn

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Dear All,

On behalf of Mr Wolfram Zeitz, the IECEE Secretariat is pleased to inform you that the following new documents have been added to the IECEE Web site:

REMINDER:

NCBs are requested to forward all relevant information to their associated Customers' Testing Facilities.

General

IECEE - Working groups

<https://www.iecee.org/committees/cmc-working-groups-task-forces>

The composition of the following WGs has been updated:

- CTL Expert Task Force 04 "INST, CONT, CAP, MISC" change in membership: Mr Xiao Jarod (Lin)

- CTL Expert Task Force 05 "LITE, SAFE" change in membership: Mr Kilb Holger
- CTL Expert Task Force 06 "CABL" change in membership: Mr Park Gibeom
- CTL Expert Task Force 10 "EMC" change in membership: Mr Kim Taehoon
- CTL Expert Task Force 14 "EMobility" change in membership: Dr Kim Seung Joo
- CTL Expert Task Force 16 "Cyber Security" change in membership: Mr Ytzhaik Moshe

CB Scheme

IECEE/IECEE CB Scheme/IEC Standards operated by the IECEE

<https://www.iecee.org/certification/iec-standards>

The following product category has been updated:

- CABL ISO 19642-3:2019
- CABL ISO 19642-4:2019
- CABL ISO 19642-5:2019
- CABL ISO 19642-6:2019
- CABL ISO 19642-7:2019
- CABL ISO 19642-8:2019
- CABL ISO 19642-9:2019
- CABL ISO 19642-10:2019

National and Group difference information is available under each particular standard.

Authorized Certificate Signatories

<https://www.iecee.org/certification/authorized-cbtc-signatories>

This page is updated on an ongoing basis.

IECEE/IECEE CB Scheme/IECEE Members

<https://www.iecee.org/members>

The following NCB scopes have been updated:

- NCB CVC Certification & Testing Co., Ltd. (<https://www.iecee.org/members/national-certification-bodies/cvc-certification-testing-co-ltd>)
- NCB Eurofins Electric & Electronic Product Testing AG (<https://www.iecee.org/members/national-certification-bodies/eurofins-electric-electronic-product-testing-ag>)
- NCB Hermon Laboratories Ltd (<https://www.iecee.org/members/national-certification-bodies/hermon-laboratories-ltd>)
- NCB Intertek Semko AB (<https://www.iecee.org/members/national-certification-bodies/intertek-semko-ab>)
- NCB Intertek Testing Services (Singapore) Pte Ltd (<https://www.iecee.org/members/national-certification-bodies/intertek-testing-services-singapore-pte-ltd>)
- NCB Korea Testing Laboratory (KTL) (<https://www.iecee.org/members/national-certification-bodies/korea-testing-laboratory-ctl>)
- NCB LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES – LCIE (<https://www.iecee.org/members/national-certification-bodies/laboratoire-central-des-industries-electriques-lcie>)
- NCB SIQ Ljubljana (<https://www.iecee.org/members/national-certification-bodies/siq-ljubljana>)

- NCB TÜV Rheinland InterCert Kft., MEEI Division (<https://www.iecee.org/members/national-certification-bodies/tuv-rheinland-intercert-kft-meei-division>)
- NCB TÜV Rheinland Japan Ltd. (<https://www.iecee.org/members/national-certification-bodies/tuv-rheinland-japan-ltd>)
- NCB TÜV Rheinland LGA Products GmbH (<https://www.iecee.org/members/national-certification-bodies/tuv-rheinland-lga-products-gmbh>)
- NCB VDE Prüf- und Zertifizierungsinstitut GmbH (<https://www.iecee.org/members/national-certification-bodies/vde-pruf-und-zertifizierungsinstitut-gmbh>)

The following TL scopes have been updated:

- CBTL CVC Testing Technology (Jiaxing) Co., Ltd. (<https://www.iecee.org/members/cbtls/cvc-testing-technology-jiaxing-co-ltd>)
- CBTL Centro de Ensayos Innovación y Servicios (CEIS) S.L. (<https://www.iecee.org/members/cbtls/centro-de-ensayos-innovacion-y-servicios-ceis-sl>)
- CBTL Eurofins Electrical Testing Service (Shenzhen) Co., Ltd. (<https://www.iecee.org/members/cbtls/eurofins-electrical-testing-service-shenzhen-co-ltd>)
- CBTL HCT Co., Ltd. (<https://www.iecee.org/members/cbtls/hct-co-ltd-29791>)
- CBTL HERMON LABORATORIES Ltd. (<https://www.iecee.org/members/cbtls/hermon-laboratories-ltd>)
- CBTL Hunan Electric Research Institute Testing Group Co., Ltd. (<https://www.iecee.org/members/cbtls/hunan-electric-research-institute-testing-group-co-ltd>)
- CBTL Intertek Testing Services Shenzhen Ltd. Guangzhou Branch (<https://www.iecee.org/members/cbtls/intertek-testing-services-shenzhen-ltd-guangzhou-branch-14445>)
- CBTL Intertek Testing Services Zhejiang Ltd. (<https://www.iecee.org/members/cbtls/intertek-testing-services-zhejiang-ltd>)
- CBTL LCIE CHINA Company limited (<https://www.iecee.org/members/cbtls/lcie-china-company-limited>)
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- CBTL Prof. Ir. Damstra Laboratory (<https://www.iecee.org/members/cbtls/prof-ir-damstra-laboratory>)
- CBTL SGS Brightsight Barcelona S.L., Madrid office (<https://www.iecee.org/members/cbtls/sgs-brightsight-barcelona-sl-madrid-office>)
- CBTL SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch (<https://www.iecee.org/members/cbtls/sgs-cstc-standards-technical-services-co-ltd-shenzhen-branch>)
- CBTL Shandong Institute for Product Quality Inspection (SDQI) (<https://www.iecee.org/members/cbtls/shandong-institute-product-quality-inspection-sdqi>)
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- CBTL TÜV SÜD America, Inc., Alpharetta GA (<https://www.iecee.org/members/cbtls/tuv-sud-america-inc-alpharetta-ga>)
- CBTL TÜV SÜD Product Service GmbH - Straubing (<https://www.iecee.org/members/cbtls/tuv-sud-product-service-gmbh-straubing>)
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- CBTL Underwriters Laboratories Taiwan Co., Ltd

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- CBTL VDE Prüf- und Zertifizierungsinstitut GmbH (<https://www.iecee.org/members/cbtls/vde-pruf-und-zertifizierungsinstitut-gmbh>)
- CBTL Zhejiang Academy of Science and Technology for Inspection & Quarantine (<https://www.iecee.org/members/cbtls/comprehensive-technical-service-center-ruian-branch-wenzhou-customs>)
- CBTL Zhejiang Testing & Inspection Institute for Mechanical and Electrical Products Quality Co.,Ltd (ZTME) (<https://www.iecee.org/members/cbtls/zhejiang-testing-inspection-institute-mechanical-and-electrical-products-quality-coltd-ztme>)

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The following NCB and CBTL acceptance certificates have been updated:

- CBTL Centro de Ensayos Innovación y Servicios (CEIS) S.L. (<https://www.iecee.org/members/cbtls/centro-de-ensayos-innovacion-y-servicios-ceis-sl>)
- CBTL Intertek Testing & Certification Ltd. - Milton Keynes (<https://www.iecee.org/members/cbtls/intertek-testing-certification-ltd-milton-keynes>)
- CBTL Mettler-Toledo GmbH (<https://www.iecee.org/members/cbtls/mettler-toledo-gmbh>)
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- CBTL SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch (<https://www.iecee.org/members/cbtls/sgs-cstc-standards-technical-services-co-ltd-shenzhen-branch>)
- CBTL SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch (<https://www.iecee.org/members/cbtls/sgs-cstc-standards-technical-services-co-ltd-shunde-branch>)
- CBTL TÜV SÜD America, Inc., Alpharetta GA (<https://www.iecee.org/members/cbtls/tuv-sud-america-inc-alpharetta-ga>)
- SPTL CCIC-CSA International Certification Co., Ltd Shanghai Branch (<https://www.iecee.org/members/sptls/ccic-csa-international-certification-co-ltd-shanghai-branch>)

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In order to timely process the evaluation of the above Re-Assessment Reports, Members are invited to send their comments, if any, within one month of this notification.

NOTE:

- IAR stands for Initial Assessment Report
- EAR stands for Scope Extension Assessment Report
- RAR stands for Re-assessment Report
- RLAR stands for Re-location Assessment Report
- FAR stands for Follow-up Assessment Report
- RWC stands for Reviewer Comments
- MBC stands for Member Comments
- LAR stands for Lead Assessor Reply

IECEE/Peer assessment/Assessment reports CLEARED

<https://www.iecee.org/peerassessment>

Report number Type of assessment Organization Download

IECEE-PAC/24-019/RAR Re-Assessment CBTL CQCTS (CQC Testing Technical Services Co. , Ltd.) Download

IECEE-PAC/23-003/RAR Re-Assessment + Extension Assessment CBTL Centro de Ensayos Innovación y Servicios (CEIS) S.L. Download

IECEE-PAC/23-114/RAR Re-Assessment CBTL Intertek Testing & Certification Ltd. - Milton Keynes Download

IECEE-PAC/24-005/RAR Re-Assessment + Extension Assessment CBTL SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch Download

IECEE-PAC/24-007/RAR Re-Assessment CBTL SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch Download

IECEE-PAC/24-133/RAR Re-Assessment + Extension Assessment CBTL TÜV SÜD America, Inc., Alpharetta GA Download

IECEE-PAC/24-233/RAR Re-Assessment + Relocation Assessment SPTL CCIC-CSA International Certification Co., Ltd Shanghai Branch Download

NOTE: due to the large file size of the reports provided, it may take a few minutes to open/save them

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Test Report Forms (TRFs)

IECEE/Restricted area/IEC & IECEN TRFs

<https://www.iecee.org/certification/iec-test-report-forms>

The following TRFs (including where applicable Group Differences and National Difference) have been published:

Product Category Standard reference TRF No. TRF Master Date TRF originator
HOUS IEC 60335-2-96:2024 in conjunction with IEC 60335-1:2020

IEC60335_2_96J 2024-12-06 DEKRA Certification B.V.
HOUS IEC 61770:2008, IEC 61770:2008/AMD1:2015 EU_GD_IEC61770D_II
European Group Differences Addendum to IEC61770D 2024-12-06 IMQ S.p.A.

The following lists of TRFs available lists has been updated:

TRFs in preparation (<https://www.iecee.org/certification/iec-test-report-forms>)

Committee of Testing Laboratories (CTL)

IECEE/CTL/ETFs & working groups
<https://www.iecee.org/committees/ctl-working-groups-task-forces>

The composition of the following ETFs have been updated:

ETF 06, ETF 05, ETF 03, ETF 16, ETF 04, ETF 10, ETF 14

Have a nice day and should you have any questions or should you experience any problems, please do not hesitate to contact the IECEE Secretariat (secretariat@iecee.org).

With best regards,
IECEE Secretariat

1st Installment payment for \$ 153.30 / \$3679

All fees need to be paid in USD. The applicable bank commission or charges to be borne by the candidate and the net amount

payable to be paid into the receiver's account.

DESCRIPTION	UNIT	PRICE	QTY	AMOUNT
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1st Installment payment for Master Of MEP				
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Engineering and Project Management(472 hrs)				
---	--	--	--	--

1st Installment payment for Master Of MEP Engineering and Project Management(472 hrs)				
---	--	--	--	--

\$ 153.30	1	\$ 153.30
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Total \$ 153.30

AMOUNT

To

Tshingombe Tshitadi

South Africa

Email: tshingombefiston@gmail.com

Mob: +27 72 529 8946

SUBJECT: CONDITIONAL ADMISSION OFFER LETTER for 2 Year Masters level program (MEP Engineering (HVAC, Electrical, Plumbing, Fire fighting & BIM + MEP project Management).4month MEP training, Engineer practice in 8months in UK based company

Dear Tshingombe Tshitadi,

We would like to issue a Conditional Admission Offer Letter for 2 Year Masters of MEP Engineering And Project Management (MEP Engineering (HVAC, Electrical, Plumbing, Firefighting & BIM +MEP project Management). 4 month MEP training, Engineer practice in 8months in UK based company.

1. PROGRAMME DETAILS

Congratulations!!!

Thank you for selecting JP JACOBS family as your selected educational institution for pursuing Master of MEP Engineering and Project Management

Name of Programme : Master of MEP Engineering and Project Management

Subjects Covered : HVAC, Electrical, Plumbing, Firefighting &BIM+

MEP Project Management

Types of Training offered : 4month MEP Design Training (HVAC, ELECTRICAL,

FIREFIGHTING, PLUMPING)

Types of Engineering Practices : MEP Design and Engineering Practice in UK based Company (practice providing in online mode only)

Duration (Years) : 472hrs (within two years)

Education Platform : Live interactive classes (online)

Intake : September 2024

2. DOCUMENT REQUIREMENTS

We are delighted to enroll you into the Master of MEP Engineering and Project Management On a conditional basis

Subject to fulfillment of the following information,

- **Updated Resume**
- **Color Passport size photo**
- **Scan copy of Passport front &back information pages**
- **Scan copy of Citizenship card(Like Aadhar card/voter card)**
- **All Academic Certificates &Transcripts**
- **Please sent your documents on this Email ID**
mep@jppjacobsinternationalresearchfoundation.com

The candidate is responsible for the authenticity of documents submitted in support of his or her application/or admission.

3. ACADEMIC REQUIREMENT

- **Candidates must attend the online mode of study during the course frame(Twenty Four-months) according to the instructor's availability**
- **Attendance of the class are mandatory to fulfill the Continuing Professional Development(CPD)hours in the final certificate**
- **Candidates must have to attend the final exam to obtain the final pass certificate from the institute**
- **Online mode of exams available for the international students, and**

will be conducted an assessment to qualify the exams

4. PAYMENT DETAILS

All fees need to be paid in USD (as per the current rate mentioned in this letter).

Please take note that the payment should be made to JPJACOBS INTERNATIONAL RESEARCH FOUNDATION.

The applicable bank commission or charges to be borne by the candidate and the net amount payable to be paid into the receiver's account.

Fees payable for the Programme

Master of MEP Engineering and Project Management

Fees payable: USD 6132 for 24Months (24installments)

Full amount payment option is also available.

The Fees once paid will not be refunded.

40%scholarship is added

Final amount is USD 3679

Installments of tuition fees:

USD153.30 x 24payments =\$3679

\$153.30– (Monthly installment)

Payment should be done prior to the starting of every month

Payment link for each installment payment will be send along with Invoice, which could be downloaded after the payment

NOTE: If you would like to get a Bank Transfer details, Please contact us by reply email requesting the Bank Account.

DECLARATION BY THE STUDENT

I hereby tender that I will regularly attend the classes and will maintain at least 80%attendance in my class. The eligibility documents submitted by me are true and genuine to the best of my knowledge

and belief. I will not indulge in any sort of legal cases, whether criminal/Civil during the course of study.

I understand that the fees once paid will not be refunded. I will not involve in malpractice, misconduct,

fraud in any manner during any tenure of study in the institute. I confirm that the information given on the

form is true, complete and accurate and none of the information requested of other material information has

been omitted. I accept if it is discovered that I have supplied false, inaccurate of misleading information,

JP JACOBS INTERNATIONAL RESEARCH FOUNDATION reserves the right to cancel my application,

with draw its offer of a place or terminate attendance at the institution and I shall have no claim against

JP JACOBS INTERNATIONAL RESEARCH FOUNDATION in relation thereto.

Date:

Place: Signature of the Applicant

IMPORTANT NOTES

• Soft copy of the certificate and mark sheet will not charged any additional cost, which includes the tuition fee.

• An additional fee is applicable for issuing the hard copy of certificate and mark sheet, Training books,

• In case you wish to receive the hardcopy of the certificate, mark sheet, training books at your

Home country the courier charges will be applied additionally

- Issuing the Soft copy of the training book will not include in the tuition fee due to the largest file
- MEP –Engineering Practice is offering work from home mode(Online Work),after the successful completion of one year an experience certificate will be provided by the London, UK base organization

We wish you every success with your studies here at JP Jacobs International Research Foundation.

Courses are conducted by

JP JACOBS INTERNATIONAL UNIVERSITY,USA

&

JP JACOBS INTERNATIONAL RESEARCH FOUNDATION,UK

Final pass certificate will be issued accordingly.

Your Faithfully,

Jensine Jen Jacob Jewel Jen Jacob
Group-Chief Operating Officer GROUP-Managing Director

Contact: +447310028064,+919544644599

CC: JP JACOBS INTERNATIONAL ENGINEERING, UK LTD
JP JACOBS INTERNATIONAL UNIVERSITY, USA
JP JACOBS INTERNATIONAL RESEARCH FOUNDATION, USA
JPJACOBS INTERNATIONAL RESEARCH FOUNDATION, INDIA
JP JACOBS INTERNATIONAL CONSTRUCTION COMPANY,

Please tell us the name of the officer or member of staff you are working with in relation to this request
engineering tshingombe